

Date: Wed, 6 Jul 94 04:30:34 PDT  
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>  
Errors-To: Ham-Homebrew-Errors@UCSD.Edu  
Reply-To: Ham-Homebrew@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Homebrew Digest V94 #184  
To: Ham-Homebrew

Ham-Homebrew Digest                    Wed, 6 Jul 94                    Volume 94 : Issue 184

Today's Topics:

    1/4-wave coax filters ?  
    Camcorder viewer needed.  
        ex  
    General electronics newsgroup?  
    microwave mixer details (2 msgs)  
    RF Feedback in Mic while talking and touching mic.  
        Want Terman book

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>  
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 6 Jul 1994 10:42:50 GMT  
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!math.ohio-state.edu!jussieu.fr!  
univ-lyon1.fr!elendir@network.ucsd.edu  
Subject: 1/4-wave coax filters ?  
To: ham-homebrew@ucsd.edu

Hi !

Some time ago, I posted here some request regarding the design of empty  
cavities to implement high-Q band-pass filters [for a repeater project].  
I found some infos, but the dimensions of the required box seem to be  
at best unpractical [Even for an UHF repeater].

Some OM told me about 1/4-wave "cavities" which seem to be in fact special  
coaxial lines. Much smaller than true cavities, but with a wire running  
through the empty space.

Does anybody have any info regarding this type of filtering device ? I  
understand it also work by a resonating process, maybe with a clever

impedance transformation, but I have no further clue. Also, the OM I talked with admitted he had bought it from a commercial source, then had them fitted for the application.

I understand also that the Q of those filters is much lower than those of true cavities.

Thanks,  
Vincent.

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F1RCS - Worldwide Friendship through Amateur Radio  
ENST, Ecole Nationale Supérieure des Télécommunications, Paris

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Date: 5 Jul 1994 23:19:49 -0700  
From: nntp.crl.com!crl.crl.com!not-for-mail@decwrl.dec.com  
Subject: Camcorder viewer needed.  
To: ham-homebrew@ucsd.edu

Hello all-

I am interested in making some "VR" glasses except instead of using small computer screens or whatever they are, I would like to use the small screen that is looked into when you use a camcorder. Does anybody have any idea where I could obtain these? I would appreciate addresses, phone#'s, and, prices. Thanx in advance.

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Date: 5 Jul 94 20:19:12 EST  
From: ccsua.ctstateu.edu!white@yale.arpa  
Subject: ex  
To: ham-homebrew@ucsd.edu

Toroids .....

What is the significance of the PHASING dots on a schematic?

And

What if the toroid requires 55 turns and you can only fit 35 turns on the core???

Any help appreciated. I'm working on the 7MHz Optimized.

Regards

Harry

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Date: 5 Jul 94 16:26:44  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!math.ohio-state.edu!

magnus.acs.ohio-state.edu!csn!news.usafa.af.mil!usafa2!jcmiller@network.ucsd.edu  
Subject: General electronics newsgroup?  
To: ham-homebrew@ucsd.edu

In article <2uvbe5\$grc@usenet.INS.CWRU.Edu> sct@po.cwru.edu (Stephen C. Trier) writes:

Mathias Hjelt <mahjelt@freenet.hut.fi> wrote:  
> Are there any newsgroups for general electronic stuff?

Take a look at sci.electronics. The volume is high, but the noise level is surprisingly low.

Stephen

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Readers of this group may also be interested in sci.electronics.repair, which I just newgrouped here (and which will presumably be carried most places).

73,

Jeff

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Jeff Miller, NH6ZW/N0, AFA5MJ/AFF5C0 (ex WD6CQV, AFA1D0, AFA8JM, AFA1HE)  
USAFA net Manager and General Troubleshooter [jcmiller@gems.usafa.af.mil] or  
HQ USAF/DFYC, USAF Academy, CO 80840 [millerjc%dfyc@dfmail.usafa.af.mil]  
55: It's not a good idea, it's just the law. E-mail for NMA info.

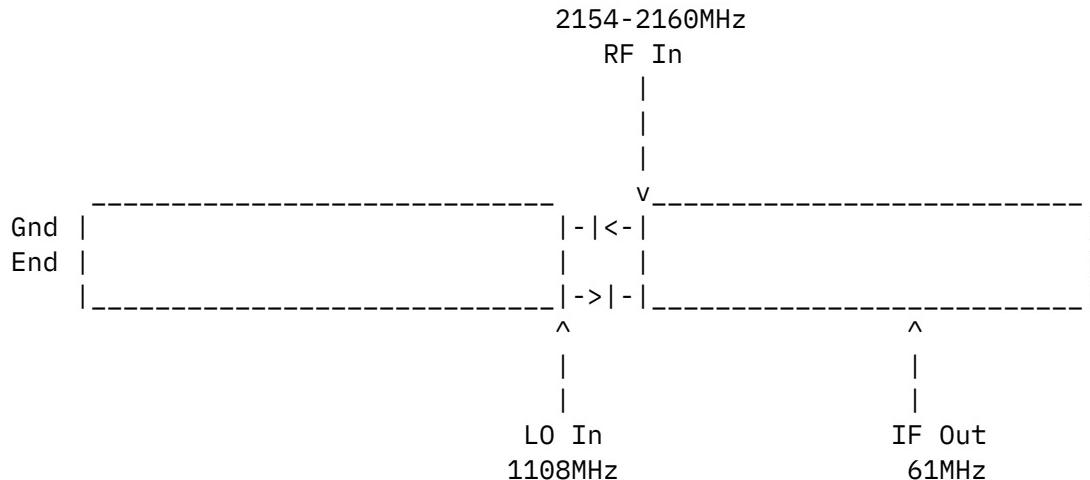
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Date: Tue, 5 Jul 1994 12:56:07 GMT  
From: spsgate!mogate!newsgate!news@uunet.uu.net  
Subject: microwave mixer details  
To: ham-homebrew@ucsd.edu

I dug up an old 73 Magazine article from 1980 for an MDS microwave downconverter. It uses an oscillator with half the frequency of the desired local oscillator and a half-wave air-line microstrip mixer. It converts 2154 and 2160 down to channel 3 (or 2 or 4 depending on how it is tuned).

The microstrips are held above the ground plane 1/16 in, and the strips are 3/16 in wide. The grounded end is 2-3/4 (7cm) in long and the rf side is 2-5/8 in (6.77cm). The diodes are oriented as shown (HP 5082-2835), and

there is half an inch between the 2 strips for the diodes. The IF out is tapped at the half way point of the ungrounded strip. I have not shown the high and low pass filters, and have noted the original frequencies.



What I want to do with this is convert the whole thing to a block converter  
for 2500 to 2700 MHz down to 200-400 MHz. The local oscillator would be 1150 MHz, easily in range of the local oscillator of this article. I want to build this on a double sided FR4 board as well.

I have pretty well figured out the width of the strips to keep the impedance the same as in the air case. But I don't know if the lenght of the half wave strips should be tuned for the local oscillator or the incoming signal, and whether or not the 1/2 inch between the strips is all that critical.

Does anyone know?

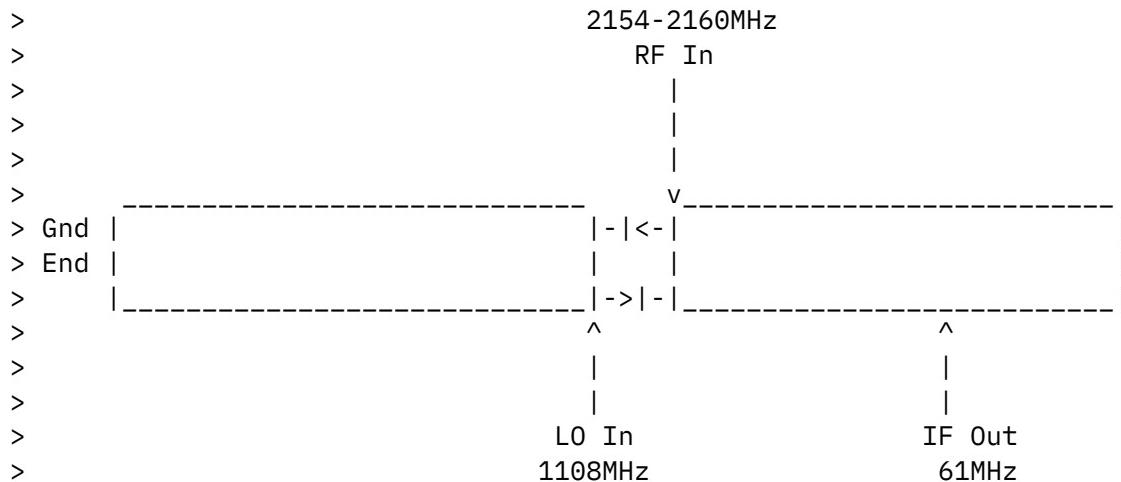
Thanks,  
Dave DiCarlo  
r14793@waccvm.sps.mot.com

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Date: Tue, 5 Jul 1994 15:45:47 GMT  
From: mozo.cc.purdue.edu!sage.cc.purdue.edu!aj@purdue.edu

Subject: microwave mixer details  
To: ham-homebrew@ucsd.edu

David DiCarlo <r14793@waccvm.sps.mot.com> writes:



> But I don't know if the length of the half wave strips should be  
> tuned for the local oscillator or the incoming signal, and whether or  
> not the 1/2 inch between the strips is all that critical.

One of the two should be tuned for the incoming signal's frequency, I would guess, as this would have the effect of making the incoming signal stronger through resonance. The other should be tuned to the incoming signal plus or minus (looks like plus from the length of the IF Out side, and jibes with good converter design principles) the IF frequency.

The half inch is probably just enough room to mount the mixer diodes, as microwave types tend to be really big-cased for some reason. When you get the diodes, measure them and set the spacing between the strips to be as close to the ends of the diodes as possible. Your biggest worry about losses is from inductance and conductance of solder at these frequencies. Pb/Sn solder is measurably less conductive at these frequencies than clean copper, but not so much that you'll really notice. Bad joints are more the issue.

I've worked at 915MHz for two years, and this isn't a lot different in the basics. Good luck on your project!

: John Dormer  
: aj@sage.cc.purdue.edu  
: jad@mdn.com

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Date: 6 Jul 1994 07:11:54 GMT  
From: ihnp4.ucsd.edu!library.ucla.edu!agate!howland.reston.ans.net!cs.utexas.edu!  
news.tamu.edu!cschmidt@network.ucsd.edu  
Subject: RF Feedback in Mic while talking and touching mic.  
To: ham-homebrew@ucsd.edu

I have a problem with RF feedback in my mic only when I touch the mic to my face while speaking. It seems that it is making the Radio Squeal. I have a RCI 2950 with a Texas Star DX 667V amplifier' and a cheap Mag-mount base with a base loaded antenna with about a 3.5" whip on top. I do not have this problem when not using the amplifier. On AM it squeals when I talk. On SSB it is fine until I start talking and then it stays keyed up and squeals for a few seconds then stops. I have had this problem with other Equipment too. But not this bad.

If anyone knows of some RF filtering Technics for Microphones I would appreciate it very much. I can't DX without the amp very well because of the Low gain of the antenna. I am new at this so if you get real technical with terms please remember to elaborate a little. If anyone else has had this same problem with the 2950 or any other radio I would be glad to hear how you got rid of the squeal and the feedback.

thanx in adv.

73,

chris  
Houston tx.

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Date: Tue, 5 Jul 1994 15:35:08 GMT  
From: ihnp4.ucsd.edu!sdd.hp.com!hp-pcd!hpcvsnz!tomb@network.ucsd.edu  
Subject: Want Terman book  
To: ham-homebrew@ucsd.edu

Mike Czuhajewski (Mike.Czuhajewski%hambbs@wb3ffv.ampr.org) wrote:  
: I'm looking for a reasonably priced copy of Radio Engineers Handbook  
: by Terman, dated somewhere back in the WWII era. (Please note the  
: exact title; there are 3 other books by the same author with the word

About 4 months ago I picked up a copy in a used book store for under \$10. I'm posting this only to give an idea of prices; I'm not at all interested in parting with it at any price near that.

73, K7ITM

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End of Ham-Homebrew Digest V94 #184

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